

SDAC Specifications & Settings

Introduction

The SDAC is a low-cost, standalone access control unit designed to work as an integral part of the LUNA™ Small Business Solution. Please refer to the SDAC Installation Guide (Document #KD10095-E) for complete instructions. Ensure that access control system hardware complies with all building codes and fire regulations. Copies of all SDAC technical instructions and a more detailed SDAC manual, including these 11x17 documents can be found in the same location that the LUNA™ software client was installed.

Cable Specifications

Device	Signal	Distance	Cable Type
Readers to ACU	Wiegand	500 ft / 152.4 m	6 conductors shielded 22 AWG
Door strikes & magnetic locks to ACU	n/a	500 ft / 152.4 m	1 pair 18 AWG
Contacts & exit devices	n/a	500 ft / 152.4 m	1 pair 22 AWG

Door Outputs – Powered/Unpowered Jumpers

The door output relay is fused at 500 mA. This output has a set of jumpers which configure the output to source power from the SDAC or configures the output as a dry contact. When the output is configured as a dry contact, the connected device requires an independent power source. The SDAC requires a external 12 Vdc power supply. When the SDAC is powered by this external power supply, it can provide limited power for strikes/mag locks, readers and RTEs based upon the limitations indicated below.

Note: The combined power of the SDAC board and all connected devices should not exceed 80% of the rated current draw of the external power supply.

Output	Device Current	Power Source	Relay	Jumpers	Setting
Door	500 mA or less	SDAC via +12 VDC supply	Powered (Default)	J8 J9	
	Over 500 mA	Independent power supply	Unpowered	J8 J9	
Note: Unpowered relays will have the following rating: Form C Limit of 30 VDC 4 Amps or 24 VAC 8 Amps.					

SDAC Port Current Ratings

The following table outlines current ratings of the power sourcing ports on the SDAC. The ports are current limited with PTC resetting fuses. Do not exceed the maximum. The SDAC requires an external 12 Vdc power supply (not included). If the current draw of a connected device exceeds the listed rating, the device will need its own dedicated power supply. If a separate power supply (not powering the SDAC) is connected to a device connected to the SDAC, then the negative (ground) of the external power supply must be connected to the SDAC.

Port	Current Rating
Reader port 1	500 mA
Reader port 2	500 mA
Door output	500 mA
RTE port	300 mA

Communication LEDs

The following table outlines the SDAC's on-board communication LEDs for diagnostics.

LED	State of LED	Notes
TD 1 - Green	Flashing – normal	Main processor sending data to on-board supervised inputs processor
	Not Illuminated – abnormal condition	Troubleshoot all possibilities. As a last resort, follow restore factory defaults J1 procedure in attempt to resolve
	Illuminated – abnormal condition	Troubleshoot all possibilities. As a last resort, follow restore factory defaults J1 procedure in attempt to resolve
RD 1 - Red	Flashing – normal	Main processor receiving data from on-board supervised inputs processor
	Not Illuminated – abnormal condition	Troubleshoot all possibilities. As a last resort, follow restore factory defaults J1 procedure in attempt to resolve
	Illuminated – abnormal condition	Troubleshoot all possibilities. As a last resort, follow restore factory defaults J1 procedure in attempt to resolve
TD 2 - Green	Flashing – normal	Control board sending data via wireless communication
	Not Illuminated – abnormal condition	If the LUNA™ software is not polling the control board
	Illuminated – abnormal condition	Troubleshoot all possibilities. As a last resort, follow restore factory defaults J1 procedure in attempt to resolve
RD 2 - Red	Flashing – normal	Control board receiving data via wireless communication
	Not Illuminated – abnormal condition	If the LUNA™ software is not polling the control board
	Illuminated – abnormal condition	Possible wiring fault

System Status LED

The system status LED is multi-color – red, amber and green – indicating the current system status as outlined. The control board also has a piezo that emits audible tones under certain LED states. Refer to the SDAC Installation Guide (Document #KD10095-E) for more information.

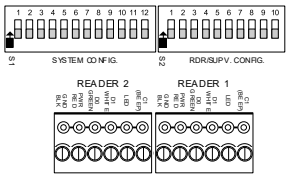
System Software Mode

The SDAC is programmed to only work with the LUNA™ software client and will not work with any other software. The unit is pre-programmed prior to purchase and DIP switches S2.9 & S2.10 should not be changed from the ON position, unless otherwise directed.

Supervision Mode DIP Switches S2.7 & S2.8

S2.7 & S2.8 set the input supervision type. The setting applies universally for the door contact, the request to exit and supervised inputs on the control board. All inputs must be the same.

Input Mode	Switches #	Settings
		0 = OFF / 1 = ON
Non-supervised or digital (Default)	S2.7 S2.8	0 0
Single end-of-line supervision	S2.7 S2.8	1 0
Double end-of-line supervision	S2.7 S2.8	1 1



System Configuration – DIP Switches S1.1 – S1.12

Switch S1 consists of 12 individual DIP switches – S1.1 to S12.12 – which set system functions, communication modes and speeds as reviewed in the following table (0 = OFF, 1 = ON).

S1 Switch #	Setting	Function	Notes
S1.1		Unassigned	
S1.2	0	115,200 bit/s (Default)	
	1	n/a	
S1.3		Unassigned	
S1.4		Unassigned	
S1.5		Reader LED Mode	
	0	Red LED type reader	
	1	Red & green LED type reader (Default)	
S1.6		Unassigned	
S1.7		Unassigned	
S1.8		Unassigned	
S1.9		Clear Memory Enable	
	0	Disabled (Default)	Note – clear memory enable S1.9 activates the Clear Memory jumper J1 to reload factory defaults.
	1	Enabled	
S1.10 & S1.11		Unassigned	
S1.12		Flash Program Memory Upgrade	
	0	n/a	
	1	n/a	

Reader Configuration – DIP Switches S2.1 – S2.6

S2.1 – S2.6 set the control board reader format. Reader formats apply to PROM version 3.4.20 or greater, unless otherwise stated in the table below.

Advantage of Keyscan 36-bit Proprietary Wiegand Format Cards

Keyscan's 36-bit proprietary Wiegand format cards and tags, which include a manufacturer's code, offer a high level of security. Keyscan tracks all its cards and tags. This ensures that no duplicate cards or tags are sold by Keyscan. When installing or upgrading a Keyscan access control system, we recommend our proprietary Keyscan 36-bit Wiegand format cards and tags, available in 125 kHz or 13.56 MHz formats, for a high level of security.

Security Levels

Be aware that where Keyscan's 36-bit proprietary cards share a combined reader format with other manufacturer's cards, the other manufacturer's card binary bits may be truncated to accommodate the joint format. This lessens the overall security, as not all bits are read. Reader formats ranked with medium and low are NOT recommended. The ratings are based on whether a card's binary bits are truncated and/or the cards are sold by other manufacturers, which dormakaba Canada Inc. has no control over.

Card Number Formats

The supported card number formats fall under the following two types:

- Standard Card Number – 3 digit facility code* / 5 digit card number
 - Facility code range: 1 – 255
 - Card number range: 1 – 65535
- Extended Card Number – hexadecimal 0-9, A-F or decimal 0 – 9
 - Hexadecimal range: 1 – FFFFFFFF
 - Decimal range: 1 – 281474976710655

*The facility code may also be referred to as the site code or the batch code.

dormakaba Canada Inc. assumes no responsibility for liability for any card format.

Ref #	Reader Format	Security Level	Settings S2.1 – S2.6 0=OFF / 1=ON	Card Number Format	Notes
1	Keyscan 36-bit only	High	0 0 0 0 0	Standard (Default)	
2	26 to 48 Pass-through Large Card Format (with first and last parity bits dropped)	Medium - Low	0 1 1 1 1	Extended	
3	Standard 26-bit & Keyscan 36-bit	Low	1 0 0 0 0	Standard	

Reader Current Consumption

Do not run reader cables in same conduit with AC power or signal cables. Keep reader cables at least 12 inches or 30 centimeters from AC, computer data, telephone data, or electric lock device cables. Do not install readers where broad spectrum EMI noise may be present. Motors, pumps, generators, and AC switching relays can create EMI noise. Readers mounted on a metal surface can have reduced read ranges.

Reader	Power/Current	Notes
K-PROX3	12 VDC, 80 mA	(125 KHz HID compatible)
K-VAN	12 VDC, 90 mA	(125 KHz HID compatible)
K-KPR	12 VDC, 115 mA	(125 KHz HID compatible)
K-SMART (13.56 MHz)	12 VDC, 210 mA	
K-SMART3	12 VDC, 125 mA	

LUNA™ Computer Specifications

The table below outlines the recommended minimum requirements.

Processor	Intel Core i3 equivalent or better
RAM	8 GB RAM, 2400 MHz, DDR4
Hard Drive	Hard Drive with 100 GB of free space
Operating Systems	Windows 10 Home/Professional/Enterprise Windows 8 Professional/Enterprise Windows 7 Home/Professional/Ultimate
Communication	802.11 Wireless b/g/n Adapter
Peripherals	Keyboard & Mouse USB Port Minimum screen resolution of 1024 x 768